

WHAT IS CLAIMED IS:

1. A method for managing communication impairments between Internet Protocol devices, comprising:
 - receiving a notice of transmitted noise; and
 - 5 in response to the notice, granting priority to an outgoing signal over the transmitted noise.
2. The method of Claim 1, and further comprising:
 - determining that the noise is transmitted; and
 - 10 in response to the determination, sending the notice of the transmitted noise.
3. The method of Claim 1, and further comprising:
 - receiving a second notice of a transmitted
 - 15 communication signal; and
 - in response to the second notice, accepting the communication signal.
4. The method of Claim 3, and further comprising:
 - 20 detecting that the communication signal is transmitted and that the transmission of the noise has been halted; and
 - in response to the detection, sending the second notice of the transmitted communication signal.
- 25 5. The method of Claim 1, wherein the notice indicates that the noise is pending transmission.
6. The method of Claim 3, wherein the second
- 30 notice indicates that the communication signal is pending transmission.

9. A method for managing communication impairments between Internet Protocol devices, comprising:

detecting masking of an echo signal by a first endpoint, the echo signal generated by the first endpoint
5 for transmission to a second endpoint;

in response to the detection, sending a notice signal to the second endpoint, the notice signal indicating that the echo signal is being masked; and

in response to the notice signal, prioritizing,
10 over the masked echo signal, any outgoing signal transmitted by the second endpoint.

10. The method of Claim 9, and further comprising:

detecting a bypass of a non-linear processing
15 block by a second signal, the second signal generated by the first endpoint for transmission to the second endpoint, wherein the non-linear processing block is operable to mask the second signal;

sending a second notice signal to the second
20 endpoint indicating the detection of the bypass; and

in response to the second notice signal, accepting the second signal at the second endpoint.

11. The method of Claim 9, wherein detecting that
25 the echo signal is being masked comprises detecting a pending masking of the echo signal.

12. The method of Claim 10, wherein detecting the bypass of the non-linear processing block comprises
30 detecting a pending bypass of the non-linear processing block.

14. The method of Claim 9, wherein the notice
signal from the first endpoint is sent with a Real Time
Transport Protocol stream transmitted from the first
10 endpoint.

PREFACE

15. A system for managing communication impairments, comprising:

a Internet Protocol device operable to:

determine that noise has been transmitted
5 by the Internet Protocol device; and

in response to the determination, send a notice signal, the notice signal indicating that the noise is transmitted; and

an endpoint coupled to the Internet Protocol
10 device through an Internet Protocol network, the endpoint operable to grant, in response to the notice signal, priority to any outgoing signal over the noise.

16. The system of Claim 15, wherein the Internet
15 Protocol device is operable to determine that the noise is pending transmission, and in response to the determination, send the notice signal indicating that the noise is pending transmission.

20 17. The system of Claim 15, wherein the endpoint is operable to grant priority to any outgoing signal over the noise by refraining from attenuating the outgoing signal.

25 18. The system of Claim 15, wherein the Internet Protocol device is further operable to detect a transmission of a communication signal instead of the noise, and in response to the determination, send a second notice signal to the endpoint indicating that the
30 communication signal is transmitted.

19. The system of Claim 15, wherein the Internet Protocol device is further operable to detect a pending transmission of the communication signal instead of the noise, and in response to the determination, send the
5 second notice signal to the endpoint indicating that the communication signal is pending transmission.

20. The system of Claim 18, wherein the endpoint is operable to accept the communication signal in response
10 to the second notice signal.

21. The system of Claim 15, wherein the notice signal is sent with a Real Time Transport Protocol signal, the signal transmitted by the Internet Protocol
15 device.

22. The system of Claim 15, wherein the endpoint is a Internet Protocol speakerphone comprising an acoustic echo canceller and a speakerphone controller, wherein the
20 acoustic echo canceller is operable to suppress the signal and the speakerphone controller is operable to receive the notice signal and direct the acoustic echo canceller to ignore, at the speakerphone, the masked echo transmitted by the Internet Protocol device.

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23. A system for managing communication impairments, comprising:

a control means for receiving a notice indicating a transmission of a masked echo and in
5 response to the notice, generating a first signal;

a communication means for receiving the first signal, and in response to the first signal, giving priority, over the incoming masked echo, to any outgoing signal transmitted from the communication means.

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24. The system of Claim 23, and further comprising a transmission means for sending the notice to the control means.

15 25. The system of Claim 23, and further comprising:

a means for receiving a second notice indicating a transmission of a communication signal instead of the masked echo and in response to the second notice, generating a second signal; and

20 a means for receiving the second signal, and in response to the second signal, accepting the communication signal.

26. The system of Claim 25, and further comprising
25 a means for sending the second notice.

27. A method for managing communication impairments between an Internet Protocol phone and an Internet Protocol device, comprising:

receiving a status signal at the device
5 indicating that the phone is operating as a speakerphone;
and

in response to the status signal, suppressing transmission of any comfort noise to the phone.

10 28. The method of Claim 27, and further comprising sending the status signal to the device, the status signal indicating that the phone is operating as a speakerphone.

15 29. The method of Claim 27, and further comprising:
receiving a second status signal at the device,
the second status signal indicating that the phone halted operation as the speakerphone; and
in response to the second status signal,
20 transmitting the comfort noise to the phone.

30. The method of Claim 27, wherein operating as the speakerphone comprises conducting half-duplex operation.

25 31. The method of Claim 27, wherein the device comprises a second Internet Protocol phone.

32. The method of Claim 28, wherein sending the status signal comprises sending the signal with a Real Time Transport Protocol signal.

35. A method for managing communication impairments between an Internet Protocol phone and an Internet Protocol device, comprising:

receiving a status signal at the device
5 indicating that the phone is operating as the speakerphone; and

in response to the status signal, inserting a silent signal into an outgoing noise transmitted to the phone.

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36. The method of Claim 35, and further comprising sending the status signal.

37. The method of Claim 35, and further comprising:
15 determining that the phone is operating in a handset mode

transmitting a second status signal to the device indicating that the phone operating in a handset mode; and

20 in response to the second status signal, inserting a comfort noise into the outgoing noise transmitted to the phone.

38. The method of Claim 35, wherein the status
25 signal indicates that the phone is pending operation as the speakerphone.

39. The method of Claim 37, wherein determining that the phone is operating in the handset mode comprises
30 determining that the phone is pending operation in the handset mode.

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PATENT APPLICATION

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40. The method of Claim 36, wherein the status signal is sent with a Real Time Transport Protocol stream.

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41. A system for managing communication impairments between Internet Protocol devices, comprising:

a communication device operable to transmit a signal;

5 a non-linear processor coupled to the communication, the non-linear processor operable to insert a silent signal into the signal; and

a controller coupled to the non-linear processor, the controller operable to direct the non-linear processor to insert the silent signal in response to receiving a status signal.

42. The system of 41, wherein the status signal indicates that an endpoint is conducting half-duplex operation.

43. The system of 41, and further comprising an endpoint operable to send the status signal indicating that the endpoint is operating as a speakerphone.

44. The system of 43, wherein operating as the speakerphone comprises conducting half-duplex operation.

45. The system of Claim 43, wherein the non-linear processor is operable to insert a comfort noise into the signal and the controller is operable to command the non-linear processor to insert the comfort noise in response to a second status signal, the second status signal indicating that the endpoint halted operating as a speakerphone.

46. The system of Claim 43, wherein the endpoint is operable to send the status signal with a Real Time Transport Protocol signal.

- 5 47. The system of Claim 43, wherein the endpoint is operable to send the status signal before beginning to operate as the speakerphone.

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48. A system for managing communication impairments between an Internet Protocol phone and an Internet Protocol device, comprising:

5 a means for sending a status signal to the device indicating that the phone is in half-duplex mode; and

a means for inserting, in response to the status signal, a silent signal into a signal transmitted by the device to the phone.

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49. The system of Claim 48, and further comprising:

a means for sending a second status signal to the device indicating that the phone is in handset mode; and

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a means for inserting, in response to the second status signal, a comfort noise into the signal transmitted by the device to the phone.

50. The system of Claim 48, wherein the status
20 signal is sent with a Real Time Transport Protocol packet transmitted from the phone.

51. The system of Claim 49, wherein the second
25 status signal is sent with a Real Time Transport Protocol packet transmitted from the phone.